

## SEQUENCE LISTING

<110> UCB, S.A.  
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FUKS, Bruno

<120> Methods for the identification of agents for the treatment of seizures, neurological diseases, endocrinopathies and hormonal diseases

<130> 53529-5007-01-WO

<150> US 60/430,372

<151> 2002-12-03

<150> US 60/506,764

<151> 2003-09-30

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<170> PatentIn version 3.1

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gac ttg gag caa gat aat gac ttc ctg att tac ctc gtc agc ttc ctg Asp Leu Glu Gln Asp Asn Asp Phe Leu Ile Tyr Leu Val Ser Phe Leu 530 535 540			1632
ggc agc ctg tct gtc tta ccc ggg aac atc att tct gcc ctg ctc atg Gly Ser Leu Ser Val Leu Pro Gly Asn Ile Ile Ser Ala Leu Leu Met 545 550 555 560			1680
gat aga att gga agg ctc aag atg att ggt ggc tcc atg cta atc tct Asp Arg Ile Gly Arg Leu Lys Met Ile Gly Gly Ser Met Leu Ile Ser 565 570 575			1728
gca gtc tgc tgc ttc ttc ctg ttt ttt ggc aac agt gag tct gca atg Ala Val Cys Cys Phe Phe Leu Phe Phe Gly Asn Ser Glu Ser Ala Met 580 585 590			1776
atc ggc tgg cag tgc ctg ttc tgt ggg aca agc att gca gcc tgg aat Ile Gly Trp Gln Cys Leu Phe Cys Gly Thr Ser Ile Ala Ala Trp Asn 595 600 605			1824
gct ctg gat gtg atc aca gtg gag ctg tat ccc acc aac cag aga gca Ala Leu Asp Val Ile Thr Val Glu Leu Tyr Pro Thr Asn Gln Arg Ala 610 615 620			1872
aca gcc ttc ggc att ctc aat gga tta tgc aaa ttt ggc gcc atc ctg Thr Ala Phe Gly Ile Leu Asn Gly Leu Cys Lys Phe Gly Ala Ile Leu 625 630 635 640			1920
gga aac acc atc ttt gct tct ttt gtt ggg ata acc aaa gtg gtc ccc Gly Asn Thr Ile Phe Ala Ser Phe Val Gly Ile Thr Lys Val Val Pro 645 650 655			1968
atc ctt ctg gct gct gct tct ctg gtt ggg ggt ggc ctg att gcc ctt Ile Leu Leu Ala Ala Ala Ser Leu Val Gly Gly Gly Leu Ile Ala Leu 660 665 670			2016

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 675 680

2052

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 <213> Homo sapiens

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 Ser Asp Val Thr Glu Gly His Asp Glu Glu Asp Glu Ile Tyr Glu Gly  
 35 40 45  
 Glu Tyr Gln Gly Ile Pro His Pro Asp Asp Val Lys Ala Lys Gln Ala  
 50 55 60  
 Lys Met Ala Pro Ser Arg Met Asp Ser Leu Arg Gly Gln Thr Asp Leu  
 65 70 75 80  
 Met Ala Glu Arg Leu Glu Asp Glu Glu Gln Leu Ala His Gln Tyr Glu  
 85 90 95  
 Thr Ile Met Asp Glu Cys Gly His Gly Arg Phe Gln Trp Ile Leu Phe  
 100 105 110  
 Phe Val Leu Gly Leu Ala Leu Met Ala Asp Gly Val Glu Val Phe Val  
 115 120 125  
 Val Ser Phe Ala Leu Pro Ser Ala Glu Lys Asp Met Cys Leu Ser Ser  
 130 135 140  
 Ser Lys Lys Gly Met Leu Gly Met Ile Val Tyr Leu Gly Met Met Ala  
 145 150 155 160  
 Gly Ala Phe Ile Leu Gly Gly Leu Ala Asp Lys Leu Gly Arg Lys Arg  
 165 170 175  
 Val Leu Ser Met Ser Leu Ala Val Asn Ala Ser Phe Ala Ser Leu Ser  
 180 185 190  
 Ser Phe Val Gln Gly Tyr Gly Ala Phe Leu Phe Cys Arg Leu Ile Ser  
 195 200 205  
 Gly Ile Gly Ile Gly Gly Ala Leu Pro Ile Val Phe Ala Tyr Phe Ser  
 210 215 220  
 Glu Phe Leu Ser Arg Glu Lys Arg Gly Glu His Leu Ser Trp Leu Gly  
 225 230 235 240  
 Ile Phe Trp Met Thr Gly Gly Leu Tyr Ala Ser Ala Met Ala Trp Ser  
 245 250 255  
 Ile Ile Pro His Tyr Gly Trp Gly Phe Ser Met Gly Thr Asn Tyr His

11/44

260	265	270
Phe His Ser Trp Arg Val Phe Val Ile Val Cys Ala Leu Pro Cys Thr		
275	280	285
Val Ser Met Val Ala Leu Lys Phe Met Pro Glu Ser Pro Arg Phe Leu		
290	295	300
Leu Glu Met Gly Lys His Asp Glu Ala Trp Met Ile Leu Lys Gln Val		
305	310	315
His Asp Thr Asn Met Arg Ala Lys Gly Thr Pro Glu Lys Val Phe Thr		
325	330	335
Val Ser Asn Ile Lys Thr Pro Lys Gln Met Asp Glu Phe Ile Glu Ile		
340	345	350
Gln Ser Ser Thr Gly Thr Trp Tyr Gln Arg Trp Leu Val Arg Phe Lys		
355	360	365
Thr Ile Phe Lys Gln Val Trp Asp Asn Ala Leu Tyr Cys Val Met Gly		
370	375	380
Pro Tyr Arg Met Asn Thr Leu Ile Leu Ala Val Val Trp Phe Ala Met		
385	390	395
Ala Phe Ser Tyr Tyr Gly Leu Thr Val Trp Phe Pro Asp Met Ile Arg		
405	410	415
Tyr Phe Gln Asp Glu Glu Tyr Lys Ser Lys Met Lys Val Phe Phe Gly		
420	425	430
Glu His Val Tyr Gly Ala Thr Ile Asn Phe Thr Met Glu Asn Gln Ile		
435	440	445
His Gln His Gly Lys Leu Val Asn Asp Lys Phe Thr Arg Met Tyr Phe		
450	455	460
Lys His Val Leu Phe Glu Asp Thr Phe Phe Asp Glu Cys Tyr Phe Glu		
465	470	475
Asp Val Thr Ser Thr Asp Thr Tyr Phe Lys Asn Cys Thr Ile Glu Ser		
485	490	495
Thr Ile Phe Tyr Asn Thr Asp Leu Tyr Glu His Lys Phe Ile Asn Cys		
500	505	510
Arg Phe Ile Asn Ser Thr Phe Leu Glu Gln Lys Glu Gly Cys His Met		
515	520	525
Asp Leu Glu Gln Asp Asn Asp Phe Leu Ile Tyr Leu Val Ser Phe Leu		
530	535	540
Gly Ser Leu Ser Val Leu Pro Gly Asn Ile Ile Ser Ala Leu Leu Met		
545	550	555
Asp Arg Ile Gly Arg Leu Lys Met Ile Gly Gly Ser Met Leu Ile Ser		
565	570	575
Ala Val Cys Cys Phe Phe Leu Phe Phe Gly Asn Ser Glu Ser Ala Met		
580	585	590

Ile Gly Trp Gln Cys Leu Phe Cys Gly Thr Ser Ile Ala Ala Trp Asn  
 595 600 605

Ala Leu Asp Val Ile Thr Val Glu Leu Tyr Pro Thr Asn Gln Arg Ala  
 610 615 620

Thr Ala Phe Gly Ile Leu Asn Gly Leu Cys Lys Phe Gly Ala Ile Leu  
 625 630 635 640

Gly Asn Thr Ile Phe Ala Ser Phe Val Gly Ile Thr Lys Val Val Pro  
 645 650 655

Ile Leu Leu Ala Ala Ala Ser Leu Val Gly Gly Gly Leu Ile Ala Leu  
 660 665 670

Arg Leu Pro Glu Thr Arg Glu Gln Val Leu Met  
 675 680

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 Asp Ile Ala Arg Glu Val Lys Lys Gln Thr Val Lys Lys Val Asn Gln  
 20 25 30

gct gtg gac cga gcc cag gat gaa tac acc cag agg tcc tac agt cgg 144  
 Ala Val Asp Arg Ala Gln Asp Glu Tyr Thr Gln Arg Ser Tyr Ser Arg  
 35 40 45

ttc caa gat gaa gaa gat gat gat gac tac tac ccg gct gga gaa acc 192  
 Phe Gln Asp Glu Glu Asp Asp Asp Asp Tyr Tyr Pro Ala Gly Glu Thr  
 50 55 60

tat aat ggt gag gcc aac gat gac gaa ggc tca agt gaa gcc act gag 240  
 Tyr Asn Gly Glu Ala Asn Asp Asp Glu Gly Ser Ser Glu Ala Thr Glu  
 65 70 75 80

ggg cat gat gaa gat gat gag atc tat gag ggg gag tat cag ggc atc 288  
 Gly His Asp Glu Asp Asp Glu Ile Tyr Glu Gly Glu Tyr Gln Gly Ile  
 85 90 95

ccc agt atg aac caa gcg aag gac agc atc gtg tca gtg ggg cag ccc 336  
 Pro Ser Met Asn Gln Ala Lys Asp Ser Ile Val Ser Val Gly Gln Pro  
 100 105 110

aag ggc gat gag tac aag gac cga cgg gag ctg gaa tca gaa agg aga 384  
 Lys Gly Asp Glu Tyr Lys Asp Arg Arg Glu Leu Glu Ser Glu Arg Arg

115	120	125	
gct gac gag gaa gag tta gcc cag cag tat gag ctg ata atc caa gaa Ala Asp Glu Glu Glu Leu Ala Gln Gln Tyr Glu Leu Ile Ile Gln Glu 130 135 140			432
tgc ggt cat ggt cgt ttt cag tgg gcc ctt ttc ttc gtc ctg ggc atg Cys Gly His Gly Arg Phe Gln Trp Ala Leu Phe Phe Val Leu Gly Met 145 150 155 160			480
gct ctt atg gca gac ggt gta gag gtg ttt gtc gtt ggc ttc gtg tta Ala Leu Met Ala Asp Gly Val Glu Val Phe Val Val Gly Phe Val Leu 165 170 175			528
ccc agt gct gag aca gac ctc tgc atc cca aat tca gga tct gga tgg Pro Ser Ala Glu Thr Asp Leu Cys Ile Pro Asn Ser Gly Ser Gly Trp 180 185 190			576
cta ggc agc ata gtg tac ctc ggg atg atg gtg ggg gcg ttc ttc tgg Leu Gly Ser Ile Val Tyr Leu Gly Met Met Val Gly Ala Phe Phe Trp 195 200 205			624
gga gga ctg gca gac aaa gtg gga agg aaa cag tct ctt ctg att tgc Gly Gly Leu Ala Asp Lys Val Gly Arg Lys Gln Ser Leu Leu Ile Cys 210 215 220			672
atg tct gtc aac gga ttc ttt gcc ttc ctt tct tca ttt gtc caa ggt Met Ser Val Asn Gly Phe Phe Ala Phe Leu Ser Ser Phe Val Gln Gly 225 230 235 240			720
tat ggc ttc ttt ctc ttc tgt cgc tta ctt tct gga ttc ggg att gga Tyr Gly Phe Phe Leu Phe Cys Arg Leu Leu Ser Gly Phe Gly Ile Gly 245 250 255			768
gga gcc ata ccc act gtg ttc tcg tac ttt gct gaa gtc ctg gcc cgg Gly Ala Ile Pro Thr Val Phe Ser Tyr Phe Ala Glu Val Leu Ala Arg 260 265 270			816
gaa aag cgg ggc gaa cac ttg agc tgg ctc tgc atg ttc tgg atg atc Glu Lys Arg Gly Glu His Leu Ser Trp Leu Cys Met Phe Trp Met Ile 275 280 285			864
ggt ggc atc tac gcc tct gcc atg gcc tgg gcc atc atc ccg cac tac Gly Gly Ile Tyr Ala Ser Ala Met Ala Trp Ala Ile Ile Pro His Tyr 290 295 300			912
ggg tgg agc ttc agc atg gga tcg gcc tac cag ttt cac agt tgg cgt Gly Trp Ser Phe Ser Met Gly Ser Ala Tyr Gln Phe His Ser Trp Arg 305 310 315 320			960
gtg ttt gtc atc gtc tgt gca ctc ccc tgt gtc tcc tcc gtg gtg gcc Val Phe Val Ile Val Cys Ala Leu Pro Cys Val Ser Ser Val Val Ala 325 330 335			1008
ctc aca ttc atg cct gaa agc cca cga ttc ttg ttg gag gtt gga aaa Leu Thr Phe Met Pro Glu Ser Pro Arg Phe Leu Leu Glu Val Gly Lys 340 345 350			1056
cat gat gaa gct tgg atg att ctg aag tta att cat gac acc aac atg His Asp Glu Ala Trp Met Ile Leu Lys Leu Ile His Asp Thr Asn Met 355 360 365			1104

aga gcc cgg ggt cag cct gag aag gtc ttc acg gta aac aaa ata aaa	1152
Arg Ala Arg Gly Gln Pro Glu Lys Val Phe Thr Val Asn Lys Ile Lys	
370 375 380	
act cct aaa caa ata gat gag ctg att gaa att gag agt gac aca gga	1200
Thr Pro Lys Gln Ile Asp Glu Leu Ile Glu Ile Glu Ser Asp Thr Gly	
385 390 395 400	
aca tgg tat agg agg tgt ttt gtt cgg atc cgc acc gag ctg tac gga	1248
Thr Trp Tyr Arg Arg Cys Phe Val Arg Ile Arg Thr Glu Leu Tyr Gly	
405 410 415	
att tgg ttg act ttt atg aga tgt ttc aac tac cca gtc agg gat aat	1296
Ile Trp Leu Thr Phe Met Arg Cys Phe Asn Tyr Pro Val Arg Asp Asn	
420 425 430	
aca ata aag ctt aca att gtt tgg ttc acc ctg tcc ttt ggg tac tat	1344
Thr Ile Lys Leu Thr Ile Val Trp Phe Thr Leu Ser Phe Gly Tyr Tyr	
435 440 445	
gga tta tcc gtt tgg ttc cct gat gtc att aaa cct ctg cag tcc gat	1392
Gly Leu Ser Val Trp Phe Pro Asp Val Ile Lys Pro Leu Gln Ser Asp	
450 455 460	
gaa tat gca ttg cta acc aga aat gtg gag aga gat aaa tat gca aat	1440
Glu Tyr Ala Leu Leu Thr Arg Asn Val Glu Arg Asp Lys Tyr Ala Asn	
465 470 475 480	
ttc act att aac ttt aca atg gaa aat cag att cat act gga atg gaa	1488
Phe Thr Ile Asn Phe Thr Met Glu Asn Gln Ile His Thr Gly Met Glu	
485 490 495	
tac gac aat ggc aga ttc ata ggg gtc aag ttc aaa tct gta act ttc	1536
Tyr Asp Asn Gly Arg Phe Ile Gly Val Lys Phe Lys Ser Val Thr Phe	
500 505 510	
aaa gac tct gtt ttt aag tcc tgc acc ttt gag gat gta act tca gtg	1584
Lys Asp Ser Val Phe Lys Ser Cys Thr Phe Glu Asp Val Thr Ser Val	
515 520 525	
aac acc tac ttc aag aac tgc aca ttt att gac act gtt ttt gac aac	1632
Asn Thr Tyr Phe Lys Asn Cys Thr Phe Ile Asp Thr Val Phe Asp Asn	
530 535 540	
aca gat ttt gag cca tat aaa ttc att gac agt gaa ttt aaa aac tgc	1680
Thr Asp Phe Glu Pro Tyr Lys Phe Ile Asp Ser Glu Phe Lys Asn Cys	
545 550 555 560	
tcg ttt ttt cac aac aag acg gga tgt cag att acc ttt gat gat gac	1728
Ser Phe Phe His Asn Lys Thr Gly Cys Gln Ile Thr Phe Asp Asp Asp	
565 570 575	
tat agt gcc tac tgg att tat ttt gtc aac ttt ctg ggg aca ttg gca	1776
Tyr Ser Ala Tyr Trp Ile Tyr Phe Val Asn Phe Leu Gly Thr Leu Ala	
580 585 590	
gta ttg cca ggg aac att gtg tct gct ctg ctg atg gac aga att ggg	1824
Val Leu Pro Gly Asn Ile Val Ser Ala Leu Leu Met Asp Arg Ile Gly	
595 600 605	

15/44

cgc tta aca atg cta ggt ggc tct atg gtg ctt tgc ggg atc agc tgt 1872  
 Arg Leu Thr Met Leu Gly Gly Ser Met Val Leu Ser Gly Ile Ser Cys  
 610 615 620

ttc ttc ctt tgg ttc ggc acc agt gaa tcc atg atg ata ggc atg ctg 1920  
 Phe Phe Leu Trp Phe Gly Thr Ser Glu Ser Met Met Ile Gly Met Leu  
 625 630 635 640

tgt ctg tac aat gga ttg acc atc tca gcc tgg aac tct ctt gac gtg 1968  
 Cys Leu Tyr Asn Gly Leu Thr Ile Ser Ala Trp Asn Ser Leu Asp Val  
 645 650 655

gtc act gtg gaa ctg tac ccc aca gac cgg agg gca aca ggc ttt ggc 2016  
 Val Thr Val Glu Leu Tyr Pro Thr Asp Arg Arg Ala Thr Gly Phe Gly  
 660 665 670

ttc tta aat gcg cta tgc aag gca gca gcc gtc ctg gga aac tta ata 2064  
 Phe Leu Asn Ala Leu Cys Lys Ala Ala Ala Val Leu Gly Asn Leu Ile  
 675 680 685

ttt ggc tct ctg gtc agc atc acc aaa tca atc ccc atc ctg ctg gct 2112  
 Phe Gly Ser Leu Val Ser Ile Thr Lys Ser Ile Pro Ile Leu Leu Ala  
 690 695 700

tct act gtg ctc gtg tgt gga gga ctc gtt ggg ctg tgc ctg cct gac 2160  
 Ser Thr Val Leu Val Cys Gly Gly Leu Val Gly Leu Cys Leu Pro Asp  
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 35 40 45

Phe Gln Asp Glu Glu Asp Asp Asp Asp Tyr Tyr Pro Ala Gly Glu Thr  
 50 55 60

Tyr Asn Gly Glu Ala Asn Asp Asp Glu Gly Ser Ser Glu Ala Thr Glu  
 65 70 75 80

Gly His Asp Glu Asp Asp Glu Ile Tyr Glu Gly Glu Tyr Gln Gly Ile  
 85 90 95

Pro Ser Met Asn Gln Ala Lys Asp Ser Ile Val Ser Val Gly Gln Pro  
 100 105 110

Lys Gly Asp Glu Tyr Lys Asp Arg Arg Glu Leu Glu Ser Glu Arg Arg

115	120	125
Ala Asp Glu Glu Glu Leu	Ala Gln Gln Tyr Glu	Leu Ile Ile Gln Glu
130	135	140
Cys Gly His Gly Arg Phe	Gln Trp Ala Leu Phe	Phe Val Leu Gly Met
145	150	155
Ala Leu Met Ala Asp Gly	Val Glu Val Phe Val	Val Gly Phe Val Leu
165	170	175
Pro Ser Ala Glu Thr Asp	Leu Cys Ile Pro Asn	Ser Gly Ser Gly Trp
180	185	190
Leu Gly Ser Ile Val Tyr	Leu Gly Met Met Val	Gly Ala Phe Phe Trp
195	200	205
Gly Gly Leu Ala Asp Lys	Val Gly Arg Lys Gln	Ser Leu Leu Ile Cys
210	215	220
Met Ser Val Asn Gly Phe	Phe Ala Phe Leu Ser	Ser Phe Val Gln Gly
225	230	235
Tyr Gly Phe Phe Leu Phe	Cys Arg Leu Leu Ser	Gly Phe Gly Ile Gly
245	250	255
Gly Ala Ile Pro Thr Val	Phe Ser Tyr Phe Ala	Glu Val Leu Ala Arg
260	265	270
Glu Lys Arg Gly Glu His	Leu Ser Trp Leu Cys	Met Phe Trp Met Ile
275	280	285
Gly Gly Ile Tyr Ala Ser	Ala Met Ala Trp Ala	Ile Ile Pro His Tyr
290	295	300
Gly Trp Ser Phe Ser Met	Gly Ser Ala Tyr Gln	Phe His Ser Trp Arg
305	310	315
Val Phe Val Ile Val Cys	Ala Leu Pro Cys Val	Ser Ser Val Val Ala
325	330	335
Leu Thr Phe Met Pro Glu	Ser Pro Arg Phe Leu	Leu Glu Val Gly Lys
340	345	350
His Asp Glu Ala Trp Met	Ile Leu Lys Leu Ile	His Asp Thr Asn Met
355	360	365
Arg Ala Arg Gly Gln Pro	Glu Lys Val Phe Thr	Val Asn Lys Ile Lys
370	375	380
Thr Pro Lys Gln Ile Asp	Glu Leu Ile Glu Ile	Glu Ser Asp Thr Gly
385	390	395
Thr Trp Tyr Arg Arg Cys	Phe Val Arg Ile Arg	Thr Glu Leu Tyr Gly
405	410	415
Ile Trp Leu Thr Phe Met	Arg Cys Phe Asn Tyr	Pro Val Arg Asp Asn
420	425	430
Thr Ile Lys Leu Thr Ile	Val Trp Phe Thr Leu	Ser Phe Gly Tyr Tyr
435	440	445



Gly Leu Ser Val Trp Phe Pro Asp Val Ile Lys Pro Leu Gln Ser Asp  
 450 455 460  
 Glu Tyr Ala Leu Leu Thr Arg Asn Val Glu Arg Asp Lys Tyr Ala Asn  
 465 470 475 480  
 Phe Thr Ile Asn Phe Thr Met Glu Asn Gln Ile His Thr Gly Met Glu  
 485 490 495  
 Tyr Asp Asn Gly Arg Phe Ile Gly Val Lys Phe Lys Ser Val Thr Phe  
 500 505 510  
 Lys Asp Ser Val Phe Lys Ser Cys Thr Phe Glu Asp Val Thr Ser Val  
 515 520 525  
 Asn Thr Tyr Phe Lys Asn Cys Thr Phe Ile Asp Thr Val Phe Asp Asn  
 530 535 540  
 Thr Asp Phe Glu Pro Tyr Lys Phe Ile Asp Ser Glu Phe Lys Asn Cys  
 545 550 555 560  
 Ser Phe Phe His Asn Lys Thr Gly Cys Gln Ile Thr Phe Asp Asp Asp  
 565 570 575  
 Tyr Ser Ala Tyr Trp Ile Tyr Phe Val Asn Phe Leu Gly Thr Leu Ala  
 580 585 590  
 Val Leu Pro Gly Asn Ile Val Ser Ala Leu Leu Met Asp Arg Ile Gly  
 595 600 605  
 Arg Leu Thr Met Leu Gly Gly Ser Met Val Leu Ser Gly Ile Ser Cys  
 610 615 620  
 Phe Phe Leu Trp Phe Gly Thr Ser Glu Ser Met Met Ile Gly Met Leu  
 625 630 635 640  
 Cys Leu Tyr Asn Gly Leu Thr Ile Ser Ala Trp Asn Ser Leu Asp Val  
 645 650 655  
 Val Thr Val Glu Leu Tyr Pro Thr Asp Arg Arg Ala Thr Gly Phe Gly  
 660 665 670  
 Phe Leu Asn Ala Leu Cys Lys Ala Ala Ala Val Leu Gly Asn Leu Ile  
 675 680 685  
 Phe Gly Ser Leu Val Ser Ile Thr Lys Ser Ile Pro Ile Leu Leu Ala  
 690 695 700  
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&lt;222&gt; (1)..(1647)

&lt;223&gt;

&lt;400&gt; 7

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cgt cgc aca ggc gag agt gca agg tca gag gac gac acg gct tca gga	96
Arg Arg Thr Gly Glu Ser Ala Arg Ser Glu Asp Asp Thr Ala Ser Gly	
20 25 30	
gag cat gaa gtc cag att gaa ggg gtc cac gtg ggc cta gag gct gtg	144
Glu His Glu Val Gln Ile Glu Gly Val His Val Gly Leu Glu Ala Val	
35 40 45	
gag ctg gat gat ggg gca gct gtg ccc aag gag ttt gcc aat ccc act	192
Glu Leu Asp Asp Gly Ala Ala Val Pro Lys Glu Phe Ala Asn Pro Thr	
50 55 60	
gat gat act ttc atg gtg gaa gat gca gtg gaa gcc att ggc ttt gga	240
Asp Asp Thr Phe Met Val Glu Asp Ala Val Glu Ala Ile Gly Phe Gly	
65 70 75 80	
aaa ttt cag tgg aag ctg tct gtt ctc act ggc ttg gct tgg atg gct	288
Lys Phe Gln Trp Lys Leu Ser Val Leu Thr Gly Leu Ala Trp Met Ala	
85 90 95	
gat gcc atg gag atg atg atc ctc agc atc ctg gca cca cag ctg cat	336
Asp Ala Met Glu Met Met Ile Leu Ser Ile Leu Ala Pro Gln Leu His	
100 105 110	
tgc gag tgg agg ctc cca agc tgg cag gtg gca ttg ctg acc tcg gtg	384
Cys Glu Trp Arg Leu Pro Ser Trp Gln Val Ala Leu Leu Thr Ser Val	
115 120 125	
gtc ttt gta ggc atg atg tcc agc tcc acg ctc tgg gga aat atc tca	432
Val Phe Val Gly Met Met Ser Ser Thr Leu Trp Gly Asn Ile Ser	
130 135 140	
gac cag tac ggc agg aaa aca ggg ctg aag atc agc gtg ctg tgg act	480
Asp Gln Tyr Gly Arg Lys Thr Gly Leu Lys Ile Ser Val Leu Trp Thr	
145 150 155 160	
ctg tac tat ggc atc ctt agt gca ttt gcg ccc gtg tat agc tgg atc	528
Leu Tyr Tyr Gly Ile Leu Ser Ala Phe Ala Pro Val Tyr Ser Trp Ile	
165 170 175	
ctg gtg ctc cgg ggc ctg gtg ggc ttc ggg atc gga gga gtt ccc cag	576
Leu Val Leu Arg Gly Leu Val Gly Phe Gly Ile Gly Gly Val Pro Gln	
180 185 190	
tcg gtg acg ctg tat gcc gag ttc ctt ccc atg aaa gcc aga gct aaa	624
Ser Val Thr Leu Tyr Ala Glu Phe Leu Pro Met Lys Ala Arg Ala Lys	
195 200 205	
tgt att ttg ctg att gag gta ttc tgg gcc atc ggg aca gtg ttc gag	672
Cys Ile Leu Leu Ile Glu Val Phe Trp Ala Ile Gly Thr Val Phe Glu	
210 215 220	

gtc gtc ctg gct gtg ttc gtg atg ccc agc ctg ggc tgg cgt tgg ctg	720
Val Val Leu Ala Val Phe Val Met Pro Ser Leu Gly Trp Arg Trp Leu	
225 230 235 240	
ctc atc ctc tca gct gtc ccg ctc ctc ctc ttt gcc gtg ctg tgt ttc	768
Leu Ile Leu Ser Ala Val Pro Leu Leu Leu Phe Ala Val Leu Cys Phe	
245 250 255	
tgg ctg cct gaa agt gca agg tat gat gtg ctg tca ggg aac cag gaa	816
Trp Leu Pro Glu Ser Ala Arg Tyr Asp Val Leu Ser Gly Asn Gln Glu	
260 265 270	
aag gca atc gcc acc tta aag agg ata gca act gaa aac gga gct ccc	864
Lys Ala Ile Ala Thr Leu Lys Arg Ile Ala Thr Glu Asn Gly Ala Pro	
275 280 285	
atg ccg ctg ggg aaa ctc atc atc tcc aga cag gaa gac cga ggc aaa	912
Met Pro Leu Gly Lys Leu Ile Ile Ser Arg Gln Glu Asp Arg Gly Lys	
290 295 300	
atg agg gac ctt ttc aca ccc cat ttt aga tgg aca act ttg ctg ctg	960
Met Arg Asp Leu Phe Thr Pro His Phe Arg Trp Thr Thr Leu Leu Leu	
305 310 315 320	
tgg ttt ata tgg ttt tcc aat gca ttc tct tac tac ggg tta gtt cta	1008
Trp Phe Ile Trp Phe Ser Asn Ala Phe Ser Tyr Tyr Gly Leu Val Leu	
325 330 335	
ctc acc aca gaa ctc ttc cag gca gga gat gtc tgc ggc atc tcc agt	1056
Leu Thr Thr Glu Leu Phe Gln Ala Gly Asp Val Cys Gly Ile Ser Ser	
340 345 350	
cgg aag aag gct gta gag gca aaa tgc agc ctg gcc tgc gag tac ctg	1104
Arg Lys Lys Ala Val Glu Ala Lys Cys Ser Leu Ala Cys Glu Tyr Leu	
355 360 365	
agt gag gag gat tac atg gac ttg ctg tgg acc acc ctc tct gag ttt	1152
Ser Glu Glu Asp Tyr Met Asp Leu Leu Trp Thr Thr Leu Ser Glu Phe	
370 375 380	
cca ggt gtc ctt gtg act ctg tgg att att gac cgc ctg ggg cgc aag	1200
Pro Gly Val Leu Val Thr Leu Trp Ile Ile Asp Arg Leu Gly Arg Lys	
385 390 395 400	
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Lys Thr Met Ala Leu Cys Phe Val Ile Phe Ser Phe Cys Ser Leu Leu	
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Leu Phe Ile Cys Val Gly Arg Asn Val Leu Thr Leu Leu Leu Phe Ile	
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gca aga gcg ttt att tct gga ggc ttt caa gcg gca tat gtt tac aca	1344
Ala Arg Ala Phe Ile Ser Gly Gly Phe Gln Ala Ala Tyr Val Tyr Thr	
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Pro Glu Val Tyr Pro Thr Ala Thr Arg Ala Leu Gly Leu Gly Thr Cys	
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20/44

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 Val Met Leu Glu Ser Ser Val Tyr Leu Thr Leu Ala Val Tyr Ser Gly  
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 Lys Gly Arg Gly Leu Gln Glu Ser Ser His Arg Glu Trp Gly Gln Glu  
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 35 40 45  
 Glu Leu Asp Asp Gly Ala Ala Val Pro Lys Glu Phe Ala Asn Pro Thr  
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 Asp Asp Thr Phe Met Val Glu Asp Ala Val Glu Ala Ile Gly Phe Gly  
 65 70 75 80  
 Lys Phe Gln Trp Lys Leu Ser Val Leu Thr Gly Leu Ala Trp Met Ala  
 85 90 95  
 Asp Ala Met Glu Met Met Ile Leu Ser Ile Leu Ala Pro Gln Leu His  
 100 105 110  
 Cys Glu Trp Arg Leu Pro Ser Trp Gln Val Ala Leu Leu Thr Ser Val  
 115 120 125  
 Val Phe Val Gly Met Met Ser Ser Ser Thr Leu Trp Gly Asn Ile Ser  
 130 135 140  
 Asp Gln Tyr Gly Arg Lys Thr Gly Leu Lys Ile Ser Val Leu Trp Thr  
 145 150 155 160

Leu Tyr Tyr Gly Ile Leu Ser Ala Phe Ala Pro Val Tyr Ser Trp Ile  
 165 170 175  
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 Ser Val Thr Leu Tyr Ala Glu Phe Leu Pro Met Lys Ala Arg Ala Lys  
 195 200 205  
 Cys Ile Leu Leu Ile Glu Val Phe Trp Ala Ile Gly Thr Val Phe Glu  
 210 215 220  
 Val Val Leu Ala Val Phe Val Met Pro Ser Leu Gly Trp Arg Trp Leu  
 225 230 235 240  
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 245 250 255  
 Trp Leu Pro Glu Ser Ala Arg Tyr Asp Val Leu Ser Gly Asn Gln Glu  
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 Lys Ala Ile Ala Thr Leu Lys Arg Ile Ala Thr Glu Asn Gly Ala Pro  
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 290 295 300  
 Met Arg Asp Leu Phe Thr Pro His Phe Arg Trp Thr Thr Leu Leu Leu  
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 Trp Phe Ile Trp Phe Ser Asn Ala Phe Ser Tyr Tyr Gly Leu Val Leu  
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 Arg Lys Lys Ala Val Glu Ala Lys Cys Ser Leu Ala Cys Glu Tyr Leu  
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 Pro Gly Val Leu Val Thr Leu Trp Ile Ile Asp Arg Leu Gly Arg Lys  
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ccc ctg gct gga gtg aga ggg ggc tta agt gat ggg gag ggt ccc cct Pro Leu Ala Gly Val Arg Gly Gly Leu Ser Asp Gly Glu Gly Pro Pro 120 125 130	798
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gct ttc ttc tca tcc ttc gtc cag ggt tat ggc acc ttc ctt ttc tgc Ala Phe Phe Ser Ser Phe Val Gln Gly Tyr Gly Thr Phe Leu Phe Cys 250 255 260	1182
cgc ctc ctt tct ggg gtt ggg att ggt ggt tcc atc ccc att gtc ttc Arg Leu Leu Ser Gly Val Gly Ile Gly Gly Ser Ile Pro Ile Val Phe 265 270 275	1230
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atg gcc tgg gcc atc atc ccc cac tat ggg tgg agt ttc cag atg ggc Met Ala Trp Ala Ile Ile Pro His Tyr Gly Trp Ser Phe Gln Met Gly 310 315 320 325	1374

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Phe Pro Ser Val Phe Ala Ile Gly Ala Leu Thr Thr Gln Pro Glu Ser	
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Pro Arg Phe Phe Leu Glu Asn Gly Lys His Asp Glu Ala Trp Met Val	
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Leu Lys Gln Val His Asp Thr Asn Met Arg Ala Lys Gly His Pro Glu	
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Arg Val Phe Ser Val Thr His Ile Lys Thr Ile His Gln Glu Asp Glu	
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Asp Met Ile Arg His Leu Gln Ala Val Asp Tyr Ala Ala Arg Thr Lys	
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Glu Asn Gln Ile His Arg Gly Gly Gln Tyr Phe Asn Asp Lys Phe Ile	
505 510 515	
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Gly Leu Arg Leu Lys Ser Val Ser Phe Glu Asp Ser Leu Phe Glu Glu	
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Cys Tyr Phe Glu Asp Val Thr Ser Ser Asn Thr Phe Phe Arg Asn Cys	
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Thr Phe Ile Asn Thr Val Phe Tyr Asn Thr Asp Leu Phe Glu Tyr Lys	
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Tyr	Phe	Val	Ser	Phe	Leu	Gly	Thr	Leu	Ala	Val	Leu	Pro	Gly	Asn	Ile		
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Asn	Ser	Glu	Ser	Ala	Met	Ile	Ala	Leu	Leu	Cys	Leu	Phe	Gly	Gly	Val		
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Ser	Ile	Ala	Ser	Trp	Asn	Ala	Leu	Asp	Val	Leu	Thr	Val	Glu	Leu	Tyr		
				665					670					675			
cct	tcc	gac	aag	agg	acg	acg	gcc	ttc	ggc	ttc	ctg	aat	gcc	ctg	tgt	2478	
Pro	Ser	Asp	Lys	Arg	Thr	Thr	Ala	Phe	Gly	Phe	Leu	Asn	Ala	Leu	Cys		
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Lys	Leu	Ala	Ala	Val	Leu	Gly	Ile	Ser	Ile	Phe	Thr	Ser	Phe	Val	Gly		
				695					700					705			
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ggt	agc	tct	ctg	gct	ctg	aag	ctg	cct	gag	acc	cgg	gga	cag	gtg	ctg	2622	
Gly	Ser	Ser	Leu	Ala	Leu	Lys	Leu	Pro	Glu	Thr	Arg	Gly	Gln	Val	Leu		
				730					735					740			
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Gln																	
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<213> Rattus norvegicus

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Gly Leu Asp Arg Val Gln Asp Glu Tyr Ser Arg Arg Ser Tyr Ser Arg
35 40 45
Phe Glu Glu Glu Glu Asp Asp Asp Asp Phe Pro Ala Pro Ala Asp Gly
50 55 60
Tyr Tyr Arg Gly Glu Gly Ala Gln Asp Glu Glu Glu Gly Gly Ala Ser
65 70 75 80
Ser Asp Ala Thr Glu Gly His Asp Glu Asp Asp Glu Ile Tyr Glu Gly
85 90 95
Glu Tyr Gln Gly Ile Pro Arg Ala Glu Ser Gly Gly Lys Gly Glu Arg
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Met Ala Asp Gly Ala Pro Leu Ala Gly Val Arg Gly Gly Leu Ser Asp
115 120 125
Gly Glu Gly Pro Pro Gly Gly Arg Gly Glu Ala Gln Arg Arg Lys Asp
130 135 140
Arg Glu Glu Leu Ala Gln Gln Tyr Glu Thr Ile Leu Arg Glu Cys Gly
145 150 155 160

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His Gly Arg Phe Gln Trp Thr Leu Tyr Phe Val Leu Gly Leu Ala Leu  
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 Ala Glu Lys Asp Met Cys Leu Ser Asp Ser Asn Lys Gly Met Leu Gly  
 195 200 205  
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 Val Asn Ser Val Phe Ala Phe Phe Ser Ser Phe Val Gln Gly Tyr Gly  
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 Thr Phe Leu Phe Cys Arg Leu Leu Ser Gly Val Gly Ile Gly Gly Ser  
 260 265 270  
 Ile Pro Ile Val Phe Ser Tyr Phe Ser Glu Phe Leu Ala Gln Glu Lys  
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 Arg Gly Glu His Leu Ser Trp Leu Cys Met Phe Trp Met Ile Gly Gly  
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 Val Tyr Ala Ala Ala Met Ala Trp Ala Ile Ile Pro His Tyr Gly Trp  
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 Ser Phe Gln Met Gly Ser Ala Tyr Gln Phe His Ser Trp Arg Val Phe  
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 Val Leu Val Phe Ala Phe Pro Ser Val Phe Ala Ile Gly Ala Leu Thr  
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 Thr Gln Pro Glu Ser Pro Arg Phe Phe Leu Glu Asn Gly Lys His Asp  
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 Glu Ala Trp Met Val Leu Lys Gln Val His Asp Thr Asn Met Arg Ala  
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 Lys Gly His Pro Glu Arg Val Phe Ser Val Thr His Ile Lys Thr Ile  
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 His Gln Glu Asp Glu Leu Ile Glu Ile Gln Ser Asp Thr Gly Thr Trp  
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 Thr Val Trp Phe Pro Asp Met Ile Arg His Leu Gln Ala Val Asp Tyr  
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28/44

Ala Ala Arg Thr Lys Val Phe Pro Gly Glu Arg Val Glu His Val Thr  
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Ser Leu Phe Glu Glu Cys Tyr Phe Glu Asp Val Thr Ser Ser Asn Thr  
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Phe Phe Arg Asn Cys Thr Phe Ile Asn Thr Val Phe Tyr Asn Thr Asp  
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Leu His Asn Lys Glu Gly Cys Pro Leu Asp Val Thr Gly Thr Gly Glu  
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Gly Ala Tyr Met Val Tyr Phe Val Ser Phe Leu Gly Thr Leu Ala Val  
595 600 605

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Leu Arg Met Leu Ala Gly Ser Ser Val Leu Ser Cys Val Ser Cys Phe  
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Phe Leu Ser Phe Gly Asn Ser Glu Ser Ala Met Ile Ala Leu Leu Cys  
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675 680 685

Leu Asn Ala Leu Cys Lys Leu Ala Ala Val Leu Gly Ile Ser Ile Phe  
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Thr Ser Phe Val Gly Ile Thr Lys Ala Ala Pro Ile Leu Phe Ala Ser  
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gag tac caa ggc atc cct cat cca gat gat gtc aag tct aag cag act 192  
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 145 150 155 160

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 Gly Ala Phe Ile Leu Gly Gly Leu Ala Asp Lys Leu Gly Arg Lys Lys  
 165 170 175

gtc ctc agc atg tcc ttg gct atc aat gct tcc ttt gcc tcc ctc tcc 576  
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 195 200 205

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ctg gag atg ggc aag cat gat gaa gcc tgg atg att ctc aag caa gtc Leu Glu Met Gly Lys His Asp Glu Ala Trp Met Ile Leu Lys Gln Val 305 310 315 320	960
cat gac acc aac atg aga gct aag ggg acc cct gag aag gtg ttc acg His Asp Thr Asn Met Arg Ala Lys Gly Thr Pro Glu Lys Val Phe Thr 325 330 335	1008
gtt tcc cac atc aaa act ccc aag caa atg gat gaa ttc att gag atc Val Ser His Ile Lys Thr Pro Lys Gln Met Asp Glu Phe Ile Glu Ile 340 345 350	1056
cag agt tca aca ggg act tgg tac cag cgc tgg ttg gtc agg ttc atg Gln Ser Ser Thr Gly Thr Trp Tyr Gln Arg Trp Leu Val Arg Phe Met 355 360 365	1104
acc att ttc aaa cag gtg tgg gat aac gcc ttg tac tgt gtg atg gga Thr Ile Phe Lys Gln Val Trp Asp Asn Ala Leu Tyr Cys Val Met Gly 370 375 380	1152
ccc tac aga atg aac acc ctg att ctg gct gtg gtc tgg ttc acc atg Pro Tyr Arg Met Asn Thr Leu Ile Leu Ala Val Val Trp Phe Thr Met 385 390 395 400	1200
gcc tta agt tac tat ggc ctg aca gtg tgg ttc ccc gac atg atc cgg Ala Leu Ser Tyr Tyr Gly Leu Thr Val Trp Phe Pro Asp Met Ile Arg 405 410 415	1248
tat ttc cag gat gaa gaa tat aag tct aaa atg aag gtg ttt ttt ggt Tyr Phe Gln Asp Glu Glu Tyr Lys Ser Lys Met Lys Val Phe Phe Gly 420 425 430	1296
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cac caa cat ggg aag ctt gtg aac gat aag ttc ata aag atg tac ttt His Gln His Gly Lys Leu Val Asn Asp Lys Phe Ile Lys Met Tyr Phe 450 455 460	1392
aag cat gtc ctc ttt gag gac aca ttc ttt gac aaa tgc tat ttt gaa Lys His Val Leu Phe Glu Asp Thr Phe Phe Asp Lys Cys Tyr Phe Glu 465 470 475 480	1440

31/44

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act acc ttc tac aac aca gac ctc tac aaa cac aag ttc att gac tgt	1536
Thr Thr Phe Tyr Asn Thr Asp Leu Tyr Lys His Lys Phe Ile Asp Cys	
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cgg ttt atc aat tcc acc ttt ctg gag cag aag gag ggc tgc cac atg	1584
Arg Phe Ile Asn Ser Thr Phe Leu Glu Gln Lys Glu Gly Cys His Met	
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Gly Ser Leu Ser Val Leu Pro Gly Asn Ile Ile Ser Ala Leu Leu Met	
545 550 555 560	
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Asp Arg Ile Gly Arg Leu Lys Met Ile Gly Gly Ser Met Leu Ile Ser	
565 570 575	
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Ala Val Cys Cys Phe Phe Leu Phe Phe Gly Asn Ser Glu Ser Ala Met	
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Ile Gly Trp Gln Cys Leu Phe Cys Gly Thr Ser Ile Ala Ala Trp Asn	
595 600 605	
gct ctg gat gtg atc aca gta gag ctg tat ccc acc aac cag agg gcc	1872
Ala Leu Asp Val Ile Thr Val Glu Leu Tyr Pro Thr Asn Gln Arg Ala	
610 615 620	
act gcc ttc ggc atc ctc aat gga ctg tgc aaa ctt ggt gcc atc ctg	1920
Thr Ala Phe Gly Ile Leu Asn Gly Leu Cys Lys Leu Gly Ala Ile Leu	
625 630 635 640	
gga aac act atc ttt gct tct ttt gtt ggg atc acc aaa gtg gtc ccc	1968
Gly Asn Thr Ile Phe Ala Ser Phe Val Gly Ile Thr Lys Val Val Pro	
645 650 655	
atc ctt ctg gct gct gct tct ctg gtt gga ggt ggc ttg gtt gcc ctt	2016
Ile Leu Leu Ala Ala Ala Ser Leu Val Gly Gly Gly Leu Val Ala Leu	
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&lt;211&gt; 683

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&lt;400&gt; 12

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 Ser Asp Val Thr Glu Gly His Asp Glu Glu Asp Glu Ile Tyr Glu Gly  
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 Glu Tyr Gln Gly Ile Pro His Pro Asp Asp Val Lys Ser Lys Gln Thr  
 50 55 60  
 Lys Met Ala Pro Ser Arg Ala Asp Gly Leu Arg Gly Gln Ala Asp Leu  
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 Met Ala Glu Arg Met Glu Asp Glu Glu Gln Leu Ala His Gln Tyr Glu  
 85 90 95  
 Thr Ile Ile Asp Glu Cys Gly His Gly Arg Phe Gln Trp Thr Leu Phe  
 100 105 110  
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 Val Ser Phe Ala Leu Pro Ser Ala Glu Lys Asp Met Cys Leu Ser Ser  
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 Ser Lys Lys Gly Met Leu Gly Leu Ile Val Tyr Leu Gly Met Met Ala  
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 Gly Ala Phe Ile Leu Gly Gly Leu Ala Asp Lys Leu Gly Arg Lys Lys  
 165 170 175  
 Val Leu Ser Met Ser Leu Ala Ile Asn Ala Ser Phe Ala Ser Leu Ser  
 180 185 190  
 Ser Phe Val Gln Gly Tyr Gly Ala Phe Leu Phe Cys Arg Leu Ile Ser  
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 Gly Ile Gly Ile Gly Gly Ser Leu Pro Ile Val Phe Ala Tyr Phe Ser  
 210 215 220  
 Glu Phe Leu Ser Arg Glu Lys Arg Gly Glu His Leu Ser Trp Leu Gly  
 225 230 235 240  
 Ile Phe Trp Met Thr Gly Gly Ile Tyr Ala Ser Ala Met Ala Trp Ser  
 245 250 255  
 Ile Ile Pro His Tyr Gly Trp Gly Phe Ser Met Gly Thr Asn Tyr His  
 260 265 270  
 Phe His Ser Trp Arg Val Phe Val Ile Val Cys Ala Leu Pro Ala Thr  
 275 280 285  
 Val Ser Met Val Ala Leu Lys Phe Met Pro Glu Ser Pro Arg Phe Leu  
 290 295 300  
 Leu Glu Met Gly Lys His Asp Glu Ala Trp Met Ile Leu Lys Gln Val  
 305 310 315 320  
 His Asp Thr Asn Met Arg Ala Lys Gly Thr Pro Glu Lys Val Phe Thr  
 325 330 335



Val Ser His Ile Lys Thr Pro Lys Gln Met Asp Glu Phe Ile Glu Ile  
 340 345 350  
 Gln Ser Ser Thr Gly Thr Trp Tyr Gln Arg Trp Leu Val Arg Phe Met  
 355 360 365  
 Thr Ile Phe Lys Gln Val Trp Asp Asn Ala Leu Tyr Cys Val Met Gly  
 370 375 380  
 Pro Tyr Arg Met Asn Thr Leu Ile Leu Ala Val Val Trp Phe Thr Met  
 385 390 395 400  
 Ala Leu Ser Tyr Tyr Gly Leu Thr Val Trp Phe Pro Asp Met Ile Arg  
 405 410 415  
 Tyr Phe Gln Asp Glu Glu Tyr Lys Ser Lys Met Lys Val Phe Phe Gly  
 420 425 430  
 Glu His Val His Gly Ala Thr Ile Asn Phe Thr Met Glu Asn Gln Ile  
 435 440 445  
 His Gln His Gly Lys Leu Val Asn Asp Lys Phe Ile Lys Met Tyr Phe  
 450 455 460  
 Lys His Val Leu Phe Glu Asp Thr Phe Phe Asp Lys Cys Tyr Phe Glu  
 465 470 475 480  
 Asp Val Thr Ser Thr Asp Thr Tyr Phe Lys Asn Cys Thr Ile Glu Ser  
 485 490 495  
 Thr Thr Phe Tyr Asn Thr Asp Leu Tyr Lys His Lys Phe Ile Asp Cys  
 500 505 510  
 Arg Phe Ile Asn Ser Thr Phe Leu Glu Gln Lys Glu Gly Cys His Met  
 515 520 525  
 Asp Phe Glu Glu Asp Asn Asp Phe Leu Ile Tyr Leu Val Ser Phe Leu  
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 Gly Ser Leu Ser Val Leu Pro Gly Asn Ile Ile Ser Ala Leu Leu Met  
 545 550 555 560  
 Asp Arg Ile Gly Arg Leu Lys Met Ile Gly Gly Ser Met Leu Ile Ser  
 565 570 575  
 Ala Val Cys Cys Phe Phe Leu Phe Phe Gly Asn Ser Glu Ser Ala Met  
 580 585 590  
 Ile Gly Trp Gln Cys Leu Phe Cys Gly Thr Ser Ile Ala Ala Trp Asn  
 595 600 605  
 Ala Leu Asp Val Ile Thr Val Glu Leu Tyr Pro Thr Asn Gln Arg Ala  
 610 615 620  
 Thr Ala Phe Gly Ile Leu Asn Gly Leu Cys Lys Leu Gly Ala Ile Leu  
 625 630 635 640  
 Gly Asn Thr Ile Phe Ala Ser Phe Val Gly Ile Thr Lys Val Val Pro  
 645 650 655  
 Ile Leu Leu Ala Ala Ala Ser Leu Val Gly Gly Gly Leu Val Ala Leu

660

665

670

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 cgctctattc tgaactgtga gtggatgatg ctgttgacgc caagctgctg aacacactcc 180  
 gtggactctt ccttgctgtg ccttgcccat cggccgagat aaa atg gaa gac tcc 235  
 Met Glu Asp Ser  
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 tac aag gat agg act tca ctg atg aag ggc gcc aag gac att gcc aaa 283  
 Tyr Lys Asp Arg Thr Ser Leu Met Lys Gly Ala Lys Asp Ile Ala Lys  
 5 10 15 20  
 gag gtg aag aag caa aca gtg aag aag gtg aac cag gca gtg gac cgg 331  
 Glu Val Lys Lys Gln Thr Val Lys Lys Val Asn Gln Ala Val Asp Arg  
 25 30 35  
 gcc cag gat gaa tac acc cag cgg tcc tac agt cga ttc cag gat gaa 379  
 Ala Gln Asp Glu Tyr Thr Gln Arg Ser Tyr Ser Arg Phe Gln Asp Glu  
 40 45 50  
 gat gat gat gat gac tac tac cca cct gga gaa acc tac agt ggg gag 427  
 Asp Asp Asp Asp Tyr Tyr Pro Pro Gly Glu Thr Tyr Ser Gly Glu  
 55 60 65  
 gcc aat gat gat gaa ggc tca agt gaa gcc act gag ggt cac gat gaa 475  
 Ala Asn Asp Asp Glu Gly Ser Ser Glu Ala Thr Glu Gly His Asp Glu  
 70 75 80  
 gaa gac gag atc tat gaa ggg gaa tac cag ggc atc ccc agc acg aac 523  
 Glu Asp Glu Ile Tyr Glu Gly Glu Tyr Gln Gly Ile Pro Ser Thr Asn  
 85 90 95 100  
 caa ggg aag gac agc ata gtg tct gta gga caa ccc aaa gga gat gag 571  
 Gln Gly Lys Asp Ser Ile Val Ser Val Gly Gln Pro Lys Gly Asp Glu  
 105 110 115  
 tac aag gac cgc aga gag ctg gag tca gag agg agg gct gat gag gag 619  
 Tyr Lys Asp Arg Arg Glu Leu Glu Ser Glu Arg Arg Ala Asp Glu Glu  
 120 125 130  
 gag ctc gcc cag cag tat gag ctg ata atc caa gag tgt ggc cat ggc 667  
 Glu Leu Ala Gln Gln Tyr Glu Leu Ile Ile Gln Glu Cys Gly His Gly

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gac ggc gtg gag gtg ttt gtg gtg ggc ttt gtg tta ccc agt gca gag Asp Gly Val Glu Val Phe Val Val Gly Phe Val Leu Pro Ser Ala Glu 165 170 175 180			763
aca gac cta tgc ata ccg aat tca gga tct gga tgg cta ggc agc ata Thr Asp Leu Cys Ile Pro Asn Ser Gly Ser Gly Trp Leu Gly Ser Ile 185 190 195			811
gtg tac ctc ggg atg atg gtg ggg gcg ttc ttc tgg gga gga ctg gca Val Tyr Leu Gly Met Met Val Gly Ala Phe Phe Trp Gly Gly Leu Ala 200 205 210			859
gac aaa gtg gga agg aag cag tct ctt ctg att tgc atg tcc gtc aac Asp Lys Val Gly Arg Lys Gln Ser Leu Leu Ile Cys Met Ser Val Asn 215 220 225			907
gga ttc ttt gcc ttc ctt tct tca ttt gtc caa ggt tac ggc ttc ttt Gly Phe Phe Ala Phe Leu Ser Ser Phe Val Gln Gly Tyr Gly Phe Phe 230 235 240			955
ctc ctc tgt cgt ttg ctt tca gga ttc ggg att gga ggc gcc att ccc Leu Leu Cys Arg Leu Leu Ser Gly Phe Gly Ile Gly Gly Ala Ile Pro 245 250 255 260			1003
act gtg ttc tcc tac ttt gct gaa gtc ctg gcc cgg gag aag cgc ggt Thr Val Phe Ser Tyr Phe Ala Glu Val Leu Ala Arg Glu Lys Arg Gly 265 270 275			1051
gag cac ctc agt tgg ctc tgc atg ttc tgg atg att ggc ggt atc tat Glu His Leu Ser Trp Leu Cys Met Phe Trp Met Ile Gly Gly Ile Tyr 280 285 290			1099
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tgg atg att ctg aag cta att cat gat acc aac atg aga gcc cgg ggc Trp Met Ile Leu Lys Leu Ile His Asp Thr Asn Met Arg Ala Arg Gly 360 365 370			1339
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agg tgt ttt gtt cgg atc cgc aca gaa ctg tac gga att tgg ttg act Arg Cys Phe Val Arg Ile Arg Thr Glu Leu Tyr Gly Ile Trp Leu Thr 405 410 415 420	1483
ttt atg aga tgc ttc aac tac ccg gtc agg gaa aac acc ata aag ctt Phe Met Arg Cys Phe Asn Tyr Pro Val Arg Glu Asn Thr Ile Lys Leu 425 430 435	1531
acg att gtt tgg ttc acc ctg tcc ttt ggg tac tat gga ctg tcc gtt Thr Ile Val Trp Phe Thr Leu Ser Phe Gly Tyr Tyr Gly Leu Ser Val 440 445 450	1579
tgg ttc cca gat gtc att aaa cac ctc cag tct gac gag tac gcc ctg Trp Phe Pro Asp Val Ile Lys His Leu Gln Ser Asp Glu Tyr Ala Leu 455 460 465	1627
ctg act cgg aat gtg cag aag gat aaa tat gca aac ttt agc att aac Leu Thr Arg Asn Val Gln Lys Asp Lys Tyr Ala Asn Phe Ser Ile Asn 470 475 480	1675
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aag aac tgc acg ttt att gat acc ctt ttt gag aac aca gat ttt gag Lys Asn Cys Thr Phe Ile Asp Thr Leu Phe Glu Asn Thr Asp Phe Glu 535 540 545	1867
ccc tat aaa ttc ata gac agc gag ttt caa aac tgc tcg ttt ctt cac Pro Tyr Lys Phe Ile Asp Ser Glu Phe Gln Asn Cys Ser Phe Leu His 550 555 560	1915
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gga ctg acc atc tca gcg tgg aac tct ctt gat gta gtc acg gtg gaa 2203  
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cta tac ccc aca gac cgg aga gca acg ggc ttt ggc ttc ttg aac gca 2251  
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 665 670 675

ctc tgt aaa gca gcg gcc gtc ctg gga aac tta ata ttc ggc tcc ttg 2299  
 Leu Cys Lys Ala Ala Ala Val Leu Gly Asn Leu Ile Phe Gly Ser Leu  
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 Val Leu Met  
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acttttgctg tgacgtaaat gtagctgtgt attgtccccg ccagtgtgat ttgcagggtc 2567

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Phe Gln Asp Glu Asp Asp Asp Asp Tyr Tyr Pro Pro Gly Glu Thr  
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Tyr Ser Gly Glu Ala Asn Asp Asp Glu Gly Ser Ser Glu Ala Thr Glu  
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Gly His Asp Glu Glu Asp Glu Ile Tyr Glu Gly Glu Tyr Gln Gly Ile  
 85 90 95

Pro Ser Thr Asn Gln Gly Lys Asp Ser Ile Val Ser Val Gly Gln Pro  
 100 105 110

Lys Gly Asp Glu Tyr Lys Asp Arg Arg Glu Leu Glu Ser Glu Arg Arg  
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 Ala Asp Glu Glu Glu Leu Ala Gln Gln Tyr Glu Leu Ile Ile Gln Glu  
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 Cys Gly His Gly Arg Phe Gln Trp Ala Leu Phe Phe Val Leu Gly Met  
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 Ala Leu Met Ala Asp Gly Val Glu Val Phe Val Val Gly Phe Val Leu  
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 Pro Ser Ala Glu Thr Asp Leu Cys Ile Pro Asn Ser Gly Ser Gly Trp  
 180 185 190  
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 Gly Gly Leu Ala Asp Lys Val Gly Arg Lys Gln Ser Leu Leu Ile Cys  
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 Met Ser Val Asn Gly Phe Phe Ala Phe Leu Ser Ser Phe Val Gln Gly  
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 Tyr Gly Phe Phe Leu Leu Cys Arg Leu Leu Ser Gly Phe Gly Ile Gly  
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 His Asp Glu Ala Trp Met Ile Leu Lys Leu Ile His Asp Thr Asn Met  
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 Arg Ala Arg Gly Gln Pro Glu Lys Val Phe Thr Val Asn Lys Ile Lys  
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 Thr Pro Lys Gln Ile Asp Glu Leu Ile Glu Ile Glu Ser Asp Thr Gly  
 385 390 395 400  
 Thr Trp Tyr Arg Arg Cys Phe Val Arg Ile Arg Thr Glu Leu Tyr Gly  
 405 410 415  
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39/44

Thr Ile Lys Leu Thr Ile Val Trp Phe Thr Leu Ser Phe Gly Tyr Tyr  
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 485 490 495  
 Tyr Asp Asn Gly Arg Phe Leu Gly Val Lys Phe Lys Ser Val Thr Phe  
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 Arg Leu Thr Met Leu Gly Gly Ser Met Val Leu Ser Gly Ile Ser Cys  
 610 615 620  
 Phe Phe Leu Trp Phe Gly Thr Ser Glu Ser Met Met Ile Gly Met Leu  
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 Cys Leu Tyr Asn Gly Leu Thr Ile Ser Ala Trp Asn Ser Leu Asp Val  
 645 650 655  
 Val Thr Val Glu Leu Tyr Pro Thr Asp Arg Arg Ala Thr Gly Phe Gly  
 660 665 670  
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 675 680 685  
 Phe Gly Ser Leu Val Ser Ile Thr Lys Ala Ile Pro Ile Leu Leu Ala  
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cgc cgc aca gga gag agc gca cgg tca gag gac gac gcg gct tcc ggg	96
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gaa cat gat gtt cag att gag ggg gtc cga gtg ggc cta gaa gct gtc	144
Glu His Asp Val Gln Ile Glu Gly Val Arg Val Gly Leu Glu Ala Val	
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gag ctg gat gat gga gca gct gtc ccc aag gag ttt gcc aat ccc act	192
Glu Leu Asp Asp Gly Ala Val Pro Lys Glu Phe Ala Asn Pro Thr	
50 55 60	
gat gac act ttc atg gtc gaa gat gcg gtg gaa gcc att ggg ttc gga	240
Asp Asp Thr Phe Met Val Glu Asp Ala Val Glu Ala Ile Gly Phe Gly	
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Arg Phe Gln Trp Lys Leu Ser Val Leu Thr Gly Leu Ala Trp Met Ala	
85 90 95	
gac gcc atg gag atg atg att ctg agc atc ctg gcg cct cag ctg cac	336
Asp Ala Met Glu Met Met Ile Leu Ser Ile Leu Ala Pro Gln Leu His	
100 105 110	
tgc gag tgg cga ctc ccc agc tgg cag gtg gcg ctg ctg act tcg gtg	384
Cys Glu Trp Arg Leu Pro Ser Trp Gln Val Ala Leu Leu Thr Ser Val	
115 120 125	
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Val Phe Ile Gly Met Met Ser Ser Ser Thr Leu Trp Gly Asn Ile Ser	
130 135 140	
gat cag tat ggc agg aaa aca ggg ctg aag atc agt gtg ttc tgg acc	480
Asp Gln Tyr Gly Arg Lys Thr Gly Leu Lys Ile Ser Val Phe Trp Thr	
145 150 155 160	
ctg tac tac ggc atc ctc agc gct ttc gcg cca gtg tat agc tgg atc	528
Leu Tyr Tyr Gly Ile Leu Ser Ala Phe Ala Pro Val Tyr Ser Trp Ile	
165 170 175	
ctg gtg ctc cga ggc ctc gtg ggc ttt ggg att gga ggg gtg cct cag	576
Leu Val Leu Arg Gly Leu Val Gly Phe Gly Ile Gly Gly Val Pro Gln	
180 185 190	
tcg gtg acc ctg tac gcc gag ttc ctc ccc atg aag gcc aga gcc aag	624
Ser Val Thr Leu Tyr Ala Glu Phe Leu Pro Met Lys Ala Arg Ala Lys	
195 200 205	
tgc att ttg ctg att gag gtt ttc tgg gcc atc ggg acc gtg ttc gag	672



Cys	Ile	Leu	Leu	Ile	Glu	Val	Phe	Trp	Ala	Ile	Gly	Thr	Val	Phe	Glu	
210						215					220					
gtg	ctt	ctg	gct	gtg	ttt	gtg	atg	ccc	agc	ctg	ggc	tgg	cgc	tgg	ctg	720
Val	Leu	Leu	Ala	Val	Phe	Val	Met	Pro	Ser	Leu	Gly	Trp	Arg	Trp	Leu	
225					230					235					240	
ctg	ctg	ctg	tgc	gcc	gct	cca	cta	ctt	gtc	ttt	gct	gtt	ctg	tgt	ttc	768
Leu	Leu	Leu	Ser	Ala	Ala	Pro	Leu	Leu	Val	Phe	Ala	Val	Leu	Cys	Phe	
				245					250					255		
tgg	ctg	cca	gag	agt	gct	agg	tac	gat	gtg	ctg	tct	ggg	aac	cag	gaa	816
Trp	Leu	Pro	Glu	Ser	Ala	Arg	Tyr	Asp	Val	Leu	Ser	Gly	Asn	Gln	Glu	
			260					265					270			
aag	gcg	att	gct	acc	tta	aag	cgg	atc	gca	aca	gaa	aat	gga	gcc	ccc	864
Lys	Ala	Ile	Ala	Thr	Leu	Lys	Arg	Ile	Ala	Thr	Glu	Asn	Gly	Ala	Pro	
	275						280					285				
atg	cct	ctg	ggg	aag	ctc	atc	atc	tcc	aga	cag	gaa	gac	cga	ggc	aaa	912
Met	Pro	Leu	Gly	Lys	Leu	Ile	Ile	Ser	Arg	Gln	Glu	Asp	Arg	Gly	Lys	
	290					295					300					
atg	agg	gac	ctt	ttc	aca	ccc	cac	ttt	cgt	tgg	aca	act	ctg	ctg	ctg	960
Met	Arg	Asp	Leu	Phe	Thr	Pro	His	Phe	Arg	Trp	Thr	Thr	Leu	Leu	Leu	
305					310					315					320	
tgg	ttt	ata	tgg	ttc	tcc	aat	gcc	ttc	tct	tat	tac	ggc	ttg	gtt	ctg	1008
Trp	Phe	Ile	Trp	Phe	Ser	Asn	Ala	Phe	Ser	Tyr	Tyr	Gly	Leu	Val	Leu	
				325					330					335		
ctc	acc	aca	gaa	ctc	ttc	cag	gcc	gga	gat	gtt	tgc	agc	atc	tcc	agc	1056
Leu	Thr	Thr	Glu	Leu	Phe	Gln	Ala	Gly	Asp	Val	Cys	Ser	Ile	Ser	Ser	
			340					345					350			
cgg	aag	aag	gcg	gtg	gaa	gcc	aaa	tgc	agc	ctg	gct	tgt	gag	tac	ctc	1104
Arg	Lys	Lys	Ala	Val	Glu	Ala	Lys	Cys	Ser	Leu	Ala	Cys	Glu	Tyr	Leu	
	355						360					365				
agc	aaa	gag	gat	tac	atg	gac	ctg	ctg	tgg	acc	acc	ctg	tct	gag	ttc	1152
Ser	Lys	Glu	Asp	Tyr	Met	Asp	Leu	Leu	Trp	Thr	Thr	Leu	Ser	Glu	Phe	
	370					375					380					
cca	ggt	gtc	ctt	gtg	act	ctg	tgg	gtc	atc	gac	cgc	ctg	ggc	cgc	aag	1200
Pro	Gly	Val	Leu	Val	Thr	Leu	Trp	Val	Ile	Asp	Arg	Leu	Gly	Arg	Lys	
385					390					395					400	
aag	acc	atg	gct	ctg	tgt	ttc	gtc	atc	ttt	tcc	ctc	tgc	agc	ctc	ctg	1248
Lys	Thr	Met	Ala	Leu	Cys	Phe	Val	Ile	Phe	Ser	Leu	Cys	Ser	Leu	Leu	
				405					410					415		
ctg	ttc	atc	tgc	att	gga	aga	aat	gtg	cta	acc	ctc	tta	ctg	ttc	att	1296
Leu	Phe	Ile	Cys	Ile	Gly	Arg	Asn	Val	Leu	Thr	Leu	Leu	Leu	Phe	Ile	
			420					425					430			
gca	aga	gcg	ttt	att	tct	gga	ggc	ttc	caa	gca	gcc	tac	gtt	tac	acg	1344
Ala	Arg	Ala	Phe	Ile	Ser	Gly	Gly	Phe	Gln	Ala	Ala	Tyr	Val	Tyr	Thr	
	435						440					445				
cct	gag	gtg	tat	cca	acg	gcg	acg	agg	gcg	ctg	ggc	ctg	ggc	acc	tgc	1392
Pro	Glu	Val	Tyr	Pro	Thr	Ala	Thr	Arg	Ala	Leu	Gly	Leu	Gly	Thr	Cys	

450	455	460	
agc ggc atg gcg aga gtg ggc gcg ctc atc act cca ttc ata gct cag			1440
Ser Gly Met Ala Arg Val Gly Ala Leu Ile Thr Pro Phe Ile Ala Gln			
465	470	475	480
gtg atg ctg gaa tct tcc gtg tac ctg acc ctg gcc gtc tac agt ggc			1488
Val Met Leu Glu Ser Ser Val Tyr Leu Thr Leu Ala Val Tyr Ser Gly			
	485	490	495
tgc tgc ctc ctt gct gcc ttg gcc tcc tgc ttt ctg ccc atc gag acc			1536
Cys Cys Leu Leu Ala Ala Leu Ala Ser Cys Phe Leu Pro Ile Glu Thr			
	500	505	510
aaa ggc cga gca ctg cag gag tcc agc cac cgg gag tgg ggc cag gag			1584
Lys Gly Arg Ala Leu Gln Glu Ser Ser His Arg Glu Trp Gly Gln Glu			
	515	520	525
atg gtt ggc cga ggg aca aac agc aca ggc gtc ccc agg tcg aac tct			1632
Met Val Gly Arg Gly Thr Asn Ser Thr Gly Val Pro Arg Ser Asn Ser			
	530	535	540
ggc tct cag gag tag			1647
Gly Ser Gln Glu			
545			

<210> 16  
 <211> 548  
 <212> PRT  
 <213> Rattus norvegicus

<400> 16  
 Met Glu Glu Asp Leu Phe Gln Leu Arg Gln Leu Pro Val Val Lys Phe  
 1 5 10 15

Arg Arg Thr Gly Glu Ser Ala Arg Ser Glu Asp Asp Ala Ala Ser Gly  
 20 25 30

Glu His Asp Val Gln Ile Glu Gly Val Arg Val Gly Leu Glu Ala Val  
 35 40 45

Glu Leu Asp Asp Gly Ala Ala Val Pro Lys Glu Phe Ala Asn Pro Thr  
 50 55 60

Asp Asp Thr Phe Met Val Glu Asp Ala Val Glu Ala Ile Gly Phe Gly  
 65 70 75 80

Arg Phe Gln Trp Lys Leu Ser Val Leu Thr Gly Leu Ala Trp Met Ala  
 85 90 95

Asp Ala Met Glu Met Met Ile Leu Ser Ile Leu Ala Pro Gln Leu His  
 100 105 110

Cys Glu Trp Arg Leu Pro Ser Trp Gln Val Ala Leu Leu Thr Ser Val  
 115 120 125

Val Phe Ile Gly Met Met Ser Ser Ser Thr Leu Trp Gly Asn Ile Ser  
 130 135 140

Asp Gln Tyr Gly Arg Lys Thr Gly Leu Lys Ile Ser Val Phe Trp Thr

145	150	155	160
Leu Tyr Tyr Gly Ile Leu Ser Ala Phe Ala Pro Val Tyr Ser Trp Ile	165	170	175
Leu Val Leu Arg Gly Leu Val Gly Phe Gly Ile Gly Gly Val Pro Gln	180	185	190
Ser Val Thr Leu Tyr Ala Glu Phe Leu Pro Met Lys Ala Arg Ala Lys	195	200	205
Cys Ile Leu Leu Ile Glu Val Phe Trp Ala Ile Gly Thr Val Phe Glu	210	215	220
Val Leu Leu Ala Val Phe Val Met Pro Ser Leu Gly Trp Arg Trp Leu	225	230	235
Leu Leu Leu Ser Ala Ala Pro Leu Leu Val Phe Ala Val Leu Cys Phe	245	250	255
Trp Leu Pro Glu Ser Ala Arg Tyr Asp Val Leu Ser Gly Asn Gln Glu	260	265	270
Lys Ala Ile Ala Thr Leu Lys Arg Ile Ala Thr Glu Asn Gly Ala Pro	275	280	285
Met Pro Leu Gly Lys Leu Ile Ile Ser Arg Gln Glu Asp Arg Gly Lys	290	295	300
Met Arg Asp Leu Phe Thr Pro His Phe Arg Trp Thr Thr Leu Leu Leu	305	310	315
Trp Phe Ile Trp Phe Ser Asn Ala Phe Ser Tyr Tyr Gly Leu Val Leu	325	330	335
Leu Thr Thr Glu Leu Phe Gln Ala Gly Asp Val Cys Ser Ile Ser Ser	340	345	350
Arg Lys Lys Ala Val Glu Ala Lys Cys Ser Leu Ala Cys Glu Tyr Leu	355	360	365
Ser Lys Glu Asp Tyr Met Asp Leu Leu Trp Thr Thr Leu Ser Glu Phe	370	375	380
Pro Gly Val Leu Val Thr Leu Trp Val Ile Asp Arg Leu Gly Arg Lys	385	390	395
Lys Thr Met Ala Leu Cys Phe Val Ile Phe Ser Leu Cys Ser Leu Leu	405	410	415
Leu Phe Ile Cys Ile Gly Arg Asn Val Leu Thr Leu Leu Leu Phe Ile	420	425	430
Ala Arg Ala Phe Ile Ser Gly Gly Phe Gln Ala Ala Tyr Val Tyr Thr	435	440	445
Pro Glu Val Tyr Pro Thr Ala Thr Arg Ala Leu Gly Leu Gly Thr Cys	450	455	460
Ser Gly Met Ala Arg Val Gly Ala Leu Ile Thr Pro Phe Ile Ala Gln	465	470	475
			480

Val Met Leu Glu Ser Ser Val Tyr Leu Thr Leu Ala Val Tyr Ser Gly  
485 490 495

Cys Cys Leu Leu Ala Ala Leu Ala Ser Cys Phe Leu Pro Ile Glu Thr  
500 505 510

Lys Gly Arg Ala Leu Gln Glu Ser Ser His Arg Glu Trp Gly Gln Glu  
515 520 525

Met Val Gly Arg Gly Thr Asn Ser Thr Gly Val Pro Arg Ser Asn Ser  
530 535 540

Gly Ser Gln Glu  
545